

### **REMARKS**

Claims 1, 3-11, 13-24, 26-34, 36-44, and 46-54 are pending with this paper. Claims 1, 3-11, 13-24, 26-34, 36-44, and 46-54 stand rejected by this Office Action. Applicant is amending independent claims 1, 11, 24, 34, and 44.

Applicant requests reconsideration of the rejected claims based on the following arguments.

#### **Substance of Interview on May 16, 2007**

Applicant and Examiner discussed the draft response. In the draft response, Applicant argued that Dulaney only discloses a linear footage and a spatial allotment for an item. Examiner indicated that replacing “floor space” with “floor area” in claim 1 would clarify this aspect.

#### **Claim Rejections – 35 U.S.C. § 103**

**Claims 1, 3-11, 13-24, 26-34, 36-44, and 46-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over “Integer Programming Models for Sales Resource Allocation,” March 1980 (Zoltners) and U.S. Patent No. 6,341,296 (Dulaney).**

Regarding claim 1, Applicant is amending the claim to include the feature of “collecting profit data for a plurality of classes in the business operation, each class including an allocation having a cost function, the allocations being constrained by a **total floor area**, each class corresponding to a department of the business operation, and each allocation belonging to the group consisting of physical allocations and economic allocations.” (Emphasis added.) The amendment is supported by the specification as originally filed, e.g., Figure 5. The combination of Zoltners and Dulaney fails to even suggest the features of “collecting profit data for a plurality of classes in the business operation, each class including an allocation having a cost function, the

allocations being constrained by a **total floor area, each class corresponding to a department of the business operation**, and each allocation belonging to the group consisting of physical allocations and economic allocations,” “determining a spatial allotment for each said **department**,” and “determining each profit function from a corresponding demand distribution for the spatial allotment of each said **department**.” (Emphasis added.) The above features are supported by the specification as originally filed, e.g., Figure 5 (element 616) and the corresponding disclosure of page 12, lines 1-20. The Office Action admits that (Page 5):

Zoltners et al. does not expressly disclose that a profit function is determined for a time interval between restocking cycles, a probability of finding a given number of units of the item on display and the spatial allotment of the item.

The Office Action further discloses (Page 5):

Dulaney et al. discloses optimizing the process of determining the quantities of a product to carry on the shelf (i.e., the facings). The facing optimization process requires data such as frequency of shelf replenishment (i.e., restocking cycles), space required per item (i.e., spatial allotment), and probability of stockout, which is a probability of not having any items left on the shelf (col. 2, lines 55-67; col. 4, lines 14-24 and 30-53; col. 6, lines 2-6; col. 6, line 66-col.7. line 4). Dulaney et al. further discloses that facing optimization is driven by several business objectives including maximizing profit (col. 7, lines 8-12).

The Office Action further alleges that (Page 6. Emphasis added.):

Additionally, Zoltners does not expressly disclose the allocations being constrained by a total floor space. Dulaney et al. discloses optimizing merchandising shelf space utilization based upon cost with physical space constraints (col., lines 14-16), where the physical space constraints include space available of a particular faculty (col. 2, lines 24-26 and 65-67), where the physical space is measured in **square** footage (col. 14, lines 30-35) which is a measure of floor space.

Dulaney merely discloses spatial allotment of an item (product) using a facing optimization process to determine the quantities of a product to carry on a shelf (facings). However, Dulaney fails to suggest anything about spatial allotment for a department (e.g., hardware department or a

home furnishings department of a store) where the allocations are constrained by a total floor space. Moreover, Dulaney merely discloses (Column 14, lines 29-36. Emphasis added.):

GM\$/FT Margin Dollars per Foot

This productivity measure is the margin dollars per **linear foot** of space

GM Dollars/(Width of item in feet\*number facings)

Sales\$/Ft Sales per Foot

This productivity measure is the sales per **linear foot** of space

As suggested above, Dulaney merely determines a length (linear<sup>1</sup> foot and not square foot) of a shelf for items that are exposed to a customer as the customer travels along an aisle.

Independent claims 11, 24, 34, and 44 include similar features. Claim 11 includes a processor that accesses the memory to retrieve computer-executable instructions to perform the features of “collecting profit data for a plurality of classes in the business operation, each class including a physical allocation having a cost function, the physical allocations being constrained by a total floor area, each class corresponding to a department of the business operation,” “determining a spatial allotment for each said department,” and “determining each profit function from a corresponding demand distribution for the spatial allotment of each said department.” Claim 24 includes a processor that accesses the memory to retrieve computer-executable instructions to perform the features of “collecting profit data for a plurality of classes in the business operation, each class including an economic allocation having a cost function, the economic allocations being constrained by a total floor area, each class corresponding to a department of the business operation,” “determining a spatial allotment for each said department,” and “determining each profit function from a corresponding demand distribution for the spatial allotment of each said department.” Also, claim 34 includes “a data unit, the data unit having a memory that includes profit data for a plurality of classes in the business operation,

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<sup>1</sup> *Linear* commonly means having one dimension. (The American Heritage College Dictionary, Third Edition, 1997) Hence, *linear foot* denotes a length and not an area.

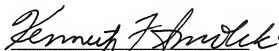
each class including an allocation having a cost function that is stored in the memory, and the memory also including a cost constraint, the allocations being constrained by a total floor area, each class corresponding to a department of the business operation,” and “a profit-model unit, the profit-model unit being connected to the data unit, and the profit-model unit including executable instructions for determining profit functions for the allocations from the profit data, wherein determining the profit functions includes: determining demand distributions for the allocations from the profit data; determining a spatial allotment for each said department; and determining each profit function from a corresponding demand distribution for the spatial allotment of the item each said department.” Claim 44 includes executable instructions for “collecting profit data for a plurality of classes in the business operation, each class including an allocation having a cost function, the allocations being constrained by a total floor area, each class corresponding to a department of the business operation,” “determining a spatial allotment for each said department,” and “determining each profit function from a corresponding demand distribution for the spatial allotment of each said department.” Because claims 3-10 and 54, 13-23, 26-33, 36-43, and 46-53 ultimately depend from claims 1, 11, 24, 34, and 44, respectively, claims 3-10 and 54, 13-23, 26-33, 36-43, and 46-53 are patentable for at least the above reasons. Applicant requests reconsideration of claims 1, 3-11, 13-24, 26-34, 36-44, and 46-54.

All objections and rejections have been addressed. Hence, it is respectfully submitted that the present application is in condition for allowance, and a notice to that effect is earnestly solicited.

Applicant notes that the amendments to the claims are intended to expedite prosecution of the present patent application and reserves the right to pursue the original subject matter in a subsequent patent application.

Respectfully submitted,

Date: May 22, 2007

A handwritten signature in black ink, appearing to read "Kenneth F. Smolik". The signature is fluid and cursive, with a horizontal line drawn underneath the name.

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